

Claims

What is claimed is:

1 1. A system for routing data across a
2 network, comprising:
3 a source appliance;
4 a destination appliance connected to the
5 source appliance via a network;
6 data of a particular source content-type
7 to be transmitted across the network from the source
8 appliance to the destination appliance; and
9 a header appended to the data, the header
10 comprising a destination appliance routing address
11 string and the source content-type.

1 2. The system of claim 1 wherein the
2 destination appliance further comprises a processor, the
3 processor using a mapping algorithm operating on the
4 data to identify the destination content-type based on
5 the source content-type and to identify the series of
6 routines necessary to convert the source content-type to
7 the destination content type.

1 3. The system of claim 2 wherein the
2 processor further uses a demultiplexing algorithm
3 operating on the data to effect the conversion of the
4 content from the source content-type to the destination
5 content type.

1 4. The system of claim 1 wherein the header
2 further comprises a destination content-type.

1 5. The system of claim 4 wherein the header
2 further comprises an intermediate content-type.

1 6. The system of claim 1 wherein the header
2 further comprises an intermediate content-type.

1 7. The system of claim 1 wherein the header
2 further comprises an intermediate appliance routing
3 address string.

1 8. The system of claim 7 further comprising
2 an intermediate appliance having a resource for
3 converting the data from the source content-type to the
4 destination content-type.

1 9. The system of claim 1 further comprising:
2 a memory device connected to the source
3 appliance; and
4 a table of information stored in the
5 memory device comprising a destination appliance routing
6 address string.

1 10. The system of claim 9 wherein the table
2 further comprises a destination content-type.

1 11. The system of claim 10 wherein the header
2 further comprises an intermediate appliance routing
3 address string.

1 12. A system for routing data across a
2 network, comprising;
3 a source appliance;

4 a source resource connected to the source
5 appliance;
6 a destination appliance connected to the
7 source appliance via a network; and
8 a table of information stored in a memory
9 device connected to the source appliance comprising the
10 destination appliance routing address string and a
11 destination resource content-type.

1 13. The system of claim 12 further comprising
2 a destination resource connected to the destination
3 appliance.

1 14. The system of claim 13 wherein the
2 destination resource is encapsulated as a media object.

1 15. The system of claim 12 further
2 comprising:
3 a header appended to the data, wherein
4 the header encapsulates the data, and wherein the header
5 comprises a destination appliance routing address string
6 and a source content-type.

1 16. The system of claim 15 wherein the header
2 further comprises a destination content-type.

1 17. The system of claim 15 wherein the header
2 further comprises an intermediate appliance routing
3 address string.

1 18. The system of claim 17 wherein the header
2 does not contain information identifying the source
3 appliance.

1 19. A header comprising:
2 a destination appliance routing address
3 string; and
4 a source content-type address string
5 appended to the destination appliance routing address
6 string.

1 20. The header of claim 19 further comprising
2 a destination content-type address string appended to
3 the source content-type address string.

1 21. The header of claim 19 further comprising
2 an intermediate appliance routing address string
3 appended to the destination appliance routing address
4 string.

1 22. A method for routing content, comprising:
2 building a header comprising at least a
3 source content-type address string and a destination
4 appliance routing address string;
5 encapsulating the content in the header;
6 and
7 transmitting the encapsulated content
8 across a network to a destination appliance.

1 23. The method of claim 22 further
2 comprising:
3 identifying the source content-type by
4 parsing the header at the destination appliance;
5 determining via a mapping algorithm what
6 the target content-type should be based on the source
7 content-type; and

8 converting the source content-type to the
9 target content-type.

1 24. The method of claim 22 wherein the header
2 further comprises a destination content-type address
3 string.

1 25. The method of claim 24 wherein the header
2 further comprises an intermediate appliance routing
3 address string.

1 26. A method comprising:
2 receiving a message from a network, the
3 message having a header and content;
4 parsing the header to identify a source
5 content-type; and
6 determining a destination content-type.

1 27. The method of claim 26 wherein the
2 destination content-type is determined via a mapping
3 algorithm.

1 28. The method of claim 27 further
2 comprising:
3 effecting the conversion of the content
4 from the source content-type to the destination content-
5 type.

1 29. The method of claim 28 wherein the
2 conversion of the content is effected by a
3 demultiplexing algorithm.

1 30. A method comprising:

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2 receiving a message from a network, the
3 message having a first header and content;
4 parsing the first header to identify a
5 source content-type and a destination content-type;
6 converting the content to an intermediate
7 content-type;
8 encapsulating the content in a second
9 header, the second header comprising an intermediate
10 content-type and a destination content-type; and
11 transmitting the message across the
12 network to a destination appliance.

1 31. The method of claim 30 wherein the first
2 header comprises a source content-type address string, a
3 destination content-type address string, an intermediate
4 appliance routing address string, and a destination
5 appliance address string.

1 32. The method of claim 31 wherein the second
2 header comprises an intermediate content-type address
3 string, a destination content-type address string, and a
4 destination appliance routing address string.

1 33. A network adapter connected between an
2 appliance and a network, comprising:
3 a memory device; and
4 a first table stored in the memory device
5 comprising information identifying a destination
6 appliance connected to the network, and routing
7 information corresponding to the destination appliance.

1 34. The network adapter of claim 33 further
2 comprising:

3 a second table stored in the memory
4 device identifying a resource on the destination
5 appliance.

1 35. A gateway interface connected between a
2 first network and a second network comprising:
3 a memory device;
4 a first table stored in the memory device
5 comprising information identifying a destination
6 appliance connected to the first network and routing
7 information corresponding the destination appliance.

1 36. The gateway interface of claim 33 further
2 comprising a second table of information stored in the
3 memory device identifying a resource on the destination
4 appliance.

1 37. A method for routing content, comprising:
2 receiving source resource information;
3 receiving destination appliance
4 information;
5 determining the destination appliance
6 routing address string; and
7 transmitting the content from a source
8 resource to a destination appliance based on the
9 destination appliance routing address string.

6 receiving signals to configure the source
7 resource to transmit the content.

1 39. A system for routing content, comprising:
2 a processor
3 a screen connected to the processor;
4 a memory device connected to the
5 processor;
6 a list of source resources displayed on
7 the screen;
8 a list of destination appliances
9 displayed on the screen;
10 a signal to the processor indicating one
11 of the source resources displayed on the screen was
12 selected;
13 a signal to the processor indicating one
14 of the destination appliances displayed on the screen
15 was selected; and
16 a table stored in the memory device
17 having an entry for a destination appliance routing
18 address corresponding to selected destination appliance.

1 40. A user interface, comprising:
2 a screen;
3 categories of sources of content
4 displayed on the screen;
5 subcategories of sources of content
6 displayed on the screen corresponding to a selected
7 category displayed on the screen;
8 a list of content displayed on the screen
9 corresponding to a selected subcategory; and

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10 a list of destinations displayed on the
11 screen capable of receiving the content.

1 41. A method for discovering appliances on a
2 network, comprising:

3 receiving a first message from an
4 appliance connected to the network;
5 if the message contains information
6 indicating how to route data to the appliance, then
7 placing an entry of the information into
8 a table;

9 if the message is requesting routing
10 information from other appliances, then
11 broadcasting routing information across
12 the network;

1 42. The method of claim 41 further
2 comprising:

3 if the message is requesting routing
4 information, then
5 broadcasting a signal containing
6 information describing how to route content to the
7 appliance.

1 43. The method of claim 42 wherein the
2 routing information includes a signal containing
3 information about a resource on the appliance.

1 44. The method of claim 42 further
2 comprising:

3 if the message indicates that the
4 appliance is leaving the network, then

5 removing the entry for the appliance from
6 the table.

1 45. The method of claim 44 further
2 comprising:

3 if the message is a signal indicating
4 that the appliance is present on the network and the
5 appliance has no entry in the table, then
6 broadcasting a request across the network
7 to the appliance asking the appliance to broadcast
8 information describing how to route content to the
9 appliance.

1 46. The method of claim 45 further
2 comprising:

3 if a specified time period has passed and
4 no signal has been received from the appliance
5 indicating that the appliance is still connected to the
6 network, then removing the entry for the appliance from
7 the table.

1 47. A system for discovering appliances on a
2 network comprising:

3 a network;
4 a first appliance connected to the
5 network; and
6 a signal received by the first appliance
7 from a second appliance connected to the network, the
8 signal including routing information to route content to
9 the second appliance and including the identity of the
10 second appliance.

1 48. The system of claim 47 further
2 comprising:
3 a table stored in a memory on the first
4 appliance into which the routing information is entered.

1 49. The system of claim 48 wherein the signal
2 includes information indicating the resources on the
3 second appliance capable of receiving or transmitting
4 content.

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